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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,363

08/14/2006

Dan Pitulia

43318-232754

6823

26694

7590

03/18/2010

VENABLE LLP

P.O. BOX 34385

WASHINGTON, DC 20043-9998

EXAMINER

HOPKINS, CHRISTINE D

ART UNIT

PAPER NUMBER

3735

MAIL DATE

DELIVERY MODE

03/18/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,363	<b>Applicant(s)</b> PITULIA, DAN	
	<b>Examiner</b> CHRISTINE D. HOPKINS	<b>Art Unit</b> 3735	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13, 15-20 and 31-43 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36-43 is/are allowed.
- 6) ☒ Claim(s) 13, 15-20, 31-33 and 35 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 February 2010 has been entered. Claims 13, 15-20 and 31-43 are now pending. The Examiner acknowledges the amendments to claims 13 and 15-20, as well as the cancellation of claims 12, 14 and 21-30 and the addition of claims 31-43.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13, 15-19, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenhardt et al. (U.S. Patent No. 5,047,994) in view of Rastatter et al. (U.S. Patent No. 5,961,443). Lenhardt et al. (hereinafter Lenhardt) disclose a bone conduction hearing device aided by a vibratory element for transmission of frequencies

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across the skull. Regarding claims 13, 31 and 33, Lenhardt teaches a hearing aid **11** configured to receive sound, having a bone conduction attachment (“skin penetrating member”) **12** which can be embedded in the skull (temporal bone) via a screw or simply attached to the head with a clamping arrangement or headband (col. 3, lines 39-52 and col. 5, lines 26-33). A vibrator of the hearing aid applies vibrations to the skull for bone conduction at varying frequencies (col. 3, lines 39-52). A microphone picks up frequencies of the spoken voice (col. 3, lines 53-58). Frequencies that are critical for noise detection, such as a “user’s voice” may be preferentially amplified, and signal processing on such sounds by the aid may include filters to reduce surrounding sounds (col. 5, lines 5-14) which are directed back to the user through the bone conducting hearing apparatus (col. 4, lines 34-44), thus relieving problems associated with stuttering.

Regarding claim 15, the frequency characteristics of the hearing aid may be adjusted (col. 5, lines 20-24). With respect to claims 16 and 18, Lenhardt teaches a signal processing unit also interpreted as an adjustable delay circuit, since the signal processing unit of Lenhardt amplifies and filters particular frequencies depending on the individual needs of a user. Some filters utilized will attenuate the signal, thus delaying its arrival to the other ear (col. 4, lines 26-51), which causes confusion and subsequently invokes stuttering. Regarding claim 17, since Applicant fails to provide a description of “a forward direction,” the microphone of Lenhardt is determined to suppress sounds from directions other than “a forward direction” since amplification of

signals at particular frequencies allows the user to sense the direction, distance and speed of particular sounds (col. 6, lines 64-68).

With respect to claim 19, Lenhardt teaches shifting a frequency of the received voice of the user fed back to the user (col. 3, lines 53-67).

However, Lenhardt fails to disclose that the method treats stuttering. Rastatter et al. (hereinafter Rastatter) teaches a device and method for ameliorating stuttering by providing an altered auditory feedback to a user. Rastatter discloses a frequency shift circuit, used in conjunction with a delay circuit (col. 8, lines 27-37) (also as in the instant application) for returning a feedback signal to the user and for manipulating non-desireable signal distortions (col. 9, lines 27-37). Rastatter further teaches filtering higher frequencies to remove unwanted background noise (col. 7, lines 57-58) and preventing sounds other than a user's voice from being transmitted by the user (col. 8, lines 57-62), both scenarios which can trigger stuttering in an individual. Lenhardt similarly teaches the reduction of noises which would prevent a user from picking up the desired speech or signal (col. 5, lines 5-14). Therefore, at the time of the invention it would have been obvious to one having ordinary skill in the art to have utilized a method for treating stuttering suggested by Rastatter, as a method for improving the hearing of an individual as taught by Lenhardt, since both methods focus on the amplification of speech transmitted to a user and the reduction of unwanted noises received by a hearing aid.

4. Claims 20, 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenhardt et al. (U.S. Patent No. 5,047,994) in view of Rastatter et al. (U.S. Patent

No. 5,961,443) and further in view of Leysieffer et al. (U.S. Pub. No. 2004/0172102).

Lenhardt and Rastatter disclose the invention as claimed, see rejection supra; however the combination fails to disclose transmission of the sound having different frequencies to the cochlea of the user. Regarding claims 20, 32 and 35, Leysieffer teaches a bone conduction system, wherein the cochlea are directly stimulated resulting in a reduction of feedback (specifically noise) to the user [0024]. The transducer may be tuned to different frequency ranges so as to likewise reduce resonances in the transmission [0025]. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to have transmitted different frequencies to the cochlea as taught by Leysieffer, in a system for treating stuttering comprising a bone conducting device as suggested by Lenhardt and Rastatter, in order to reduce the feedback received by a user, as it is known that such feedback contributes to the causes of stuttering.

#### ***Allowable Subject Matter***

5. Claims 36-43 are allowable over the prior art of record. The following is a statement of reasons for the indication of allowable subject matter: regarding claims 36-43, while the prior art teaches a method of treating stuttering via a bone conduction hearing apparatus, the prior art of record does not teach or fairly suggest a method of treating stuttering as claimed by Applicant, wherein the user's voice is directed back to the user through the apparatus such that there is a delay in stimulating a first cochlea relative to the second cochlea.

6. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims. Regarding claim 34, while the prior art teaches a method of treating stuttering via a bone conduction hearing apparatus, the prior art of record does not teach or fairly suggest a method of treating stuttering as claimed by Applicant, wherein the received user's voice directed back to the user is received by the first cochlea before it is received by the second cochlea.

### ***Response to Arguments***

7. Applicant's arguments filed 17 February 2010 with respect to the objection to claim 28 have been fully considered and are persuasive in view of its cancellation.

8. Applicant's arguments filed 17 February 2010 with respect to the rejection of claims 12-20 under 35 U.S.C. 112, second paragraph have been fully considered and are persuasive. The rejection of claims 12-20 under 35 U.S.C. 112, second paragraph has been withdrawn.

9. Applicant's arguments filed 17 February 2010 with respect to claims 12-20 under 35 U.S.C. 103(a) as being unpatentable over Lenhardt ('994) in view of Rastatter ('443) have been fully considered and are not persuasive. Applicant contends neither Lenhardt nor Rastatter disclose the user of a bone conduction hearing device in a person having no substantial hearing impairment. However, this argument is not persuasive. The device of Rastatter is specifically directed towards ameliorating stuttering by providing auditory feedback to a user (see abstract). The devices of both

Lenhardt and Rastatter operate in a similar manner and were therefore combined as Rastatter teaches filtering higher frequencies to remove unwanted background noise (col. 7, lines 57-58) and preventing sounds other than a user's voice from being transmitted by the user (col. 8, lines 57-62), both scenarios which can trigger stuttering in an individual, and Lenhardt similarly teaches the reduction of noises which would prevent a user from picking up the desired speech or signal (col. 5, lines 5-14).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE D. HOPKINS whose telephone number is (571)272-9058. The examiner can normally be reached on Monday-Friday, 7 a.m.-3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic



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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. D. H./  
Christine D Hopkins  
Examiner  
Art Unit 3735

/Charles A. Marmor, II/  
Supervisory Patent Examiner  
Art Unit 3735